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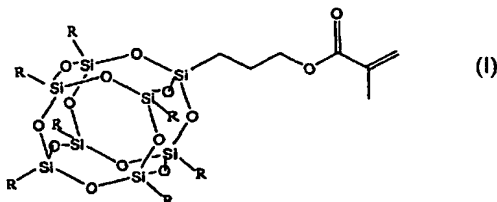
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(54) Title: HYBRID POLYMERS FOR FUNCTIONAL TUNING OF MICROFLUIDIC DEVICE SURFACES



(57) Abstract: The present invention is directed to improved microdevices and methods of manufacturing such devices. More particularly the present invention is directed to the use of a compound having the general structure (formula (I)): wherein R is selected from the group consisting of C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃-C₈ cycloalkyl, and C₅-C₆ aryl for bonding silica based substrates to plastic substrates or to other silica based substrates. In addition the polymer can be used to coat microchannels to enhance the physical properties of the microdevice.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/22162

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B32B 17/06, 25/20; C09J 143/04
US CL : 428/429, 447, 522; 156/329, 332; 427/2.25, 387

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 428/429, 447, 522; 156/329, 332; 427/2.25, 387

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,510,257 A (LEWIS et al.) 09 April 1985 (09.04.1985), Figure 3.	1-35
A	US 6,326,083 B1 (YANG et al.) 04 December 2001 (04.12.2001), column 2, lines 10-25.	1-35
P	US 2002/0182541 A1 (GONSALVES) 05 December 2002 (05.12.2002), paragraph [0050].	1-35
A		
P	US 6,576,345 B1 (VAN CLEEMPUT et al.) 10 June 2003 (10.06.2003), column 3, lines 5-57.	1-35
A		
P	US 6,586,548 B2 (BONAFINI, JR. et al.) 01 July 2003 (01.07.2003), column 2, lines 15-51.	1-35
A		



Further documents are listed in the continuation of Box C.



See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T — A	US 6,653,365 B2 (JIA) 25 November 2003 (25.11.2003), column 2, lines 1-10.	1-35

INTERNATIONAL SEARCH REPORT

PCT/US03/22162

Continuation of B. FIELDS SEARCHED Item 3:

EAST search, search terms: polyhedral, POSS, oligosilsesquioxane, polysilsesquioxane, film, coat, coating, coated, microfluidic device, microchannel, inlet port, methacrylate, acrylate, adhesive